

On page 7, line 4, following "the main operator and promoter regions of", please delete "phase" and insert -- phage --.

On page 21, line 1, please delete "Patent Claims" and insert -- WHAT IS CLAIMED IS: --.

IN THE CLAIMS:

Please amend Claims 1 - 8 as follows:

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1. (Amended) A purified and isolated [P]polypeptide [which exerts] having the biological activity of a GABA B receptor and [which comprises] comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6.
 2. (Amended) The [P]polypeptide according to Claim 1, characterized in that the amino acid sequence corresponds to a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6.
 3. (Amended) A purified and isolated [N]nucleic acid comprising a nucleotide sequence which encodes a polypeptide according to Claim 1.
 4. (Amended) The [N]nucleic acid according to Claim 3, characterized in that it is a single- or double-stranded DNA or RNA.
 5. (Amended) The [N]nucleic acid according to Claim 4, characterized in that it is a fragment of genomic DNA or cDNA.
 6. (Amended) The [N]nucleic acid according to Claim 3, characterized in that the nucleotide sequence corresponds to a sequence of SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 5.
 7. (Amended) The [N]nucleic acid according to Claim 3, characterized in that it hybridizes under stringent conditions to the sequences of SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 5.
 8. (Amended) A DNA construct comprising a nucleic acid according to [any of] Claim[s] 3 [to 7] and a heterologous promoter.

Please cancel Claim 9.

Please amend Claims 10 -17 as follows:

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10. (Amended) A vector [according to Claim 9], characterized in that the nucleic acid of Claim 3 is [operatively] linked to regulatory sequences which ensure the expression of the nucleic acid in pro-karyotic or eukaryotic cells.

11. (Amended) A [H]host cell [containing] stably transformed or transfected with a nucleic acid according to [any of] Claim[s] 3 [to 7, a DNA construct according to Claim 8 or a vector according to Claim 9 or 10].

12. (Amended) The [H]host cell according to Claim 11, which is a prokaryotic cell[, in particular E. coli].

13. (Amended) A [H]host cell according to Claim 11, which is a eukaryotic cell[, in particular a mammalian or insect cell].

14. (Amended) An [A]antibody substance which binds specifically to a polypeptide according to Claim 1.

15. (Amended) A [T]transgenic invertebrate containing a nucleic acid according to [any of] Claim[s] 3 [to 7].

16. (Amended) The [T]transgenic invertebrate according to Claim 15, which is *Drosophila melanogaster* or *Caenorhabditis elegans*.

17. (Amended) The [T]transgenic progeny of an invertebrate according to Claim 15 [or 16].

Please cancel Claims 18, 19, 20, 21, 22, 23, 24 and 25.

Please add Claims 26 - 38 as follows:

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-- 26. A vector comprising a nucleic acid according to Claim 3 or the nucleic acid of Claim 3 and a heterologous promoter.

27. The host cell of Claim 11 containing a DNA construct according to Claim 8.

28. The host cell of Claim 11 containing a vector according to Claim 10.

29. The host cell of Claim 11 wherein the prokaryotic cell is *E. coli*.

30. The host cell of Claim 11 wherein the eukaryotic cell is a mammalian or insect cell.

31. A method of generating a polypeptide having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6, comprising

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- a) culturing a host cell stably transformed or transfected with a nucleic acid according to Claim 3 under conditions which ensure the expression of the nucleic acid according to Claim 3, or
 - b) expressing a nucleic acid according to Claim 3 in an in-vitro system, and
 - (c) obtaining the polypeptide from the cell, the culture medium or the in-vitro system.

32. A method of generating a nucleic acid according to Claim 3, comprising the steps selected from the group consisting of:

- (a) full chemical synthesis in a manner known per se,
- (b) chemical synthesis of oligonucleotides further comprising, labelling of the oligonucleotides, hybridizing the oligonucleotides to DNA of a genomic library or cDNA library generated from insect genomic DNA or insect mRNA, respectively, and selecting positive clones and isolating the hybridizing DNA from positive clones, and
- (c) chemical synthesis of oligonucleotides and amplification of the target DNA by PCR.

33. A method of generating a transgenic invertebrate, comprising stably transforming or transfecting an invertebrate cell or organism with a nucleic acid selected from the group consisting of a nucleic acid of Claim 3, a nucleic acid of Claim 3 and a heterologous promoter, and a vector comprising a nucleic acid of Claim 3 operatively linked to regulatory sequences ensuring expression of the nucleic acid of Claim 3 in the invertebrate cell or organism.

34. A method of finding new active compounds for crop protection which alter the properties of polypeptides having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6, comprising the steps of:

- a) providing a host cell according to Claim 11,
- b) culturing the host cell in the presence of a chemical or of a sample comprising a multiplicity of chemicals, and
- (c) detecting altered properties .

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35. A method of finding a chemical which binds to a polypeptide having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6, comprising the steps of:

- (a) contacting a polypeptide according to Claim 1 or a host cell according to Claim 11 with a chemical or a mixture of chemicals under conditions which permit the interaction of a chemical with the polypeptide, and
- (b) determining the chemical which binds specifically to the polypeptide.

36. A method of finding a chemical which alters the expression of a polypeptide having the biological activity of a GABA B receptor and comprising an amino acid sequence which has at least 70% identity with a sequence of SEQ ID NO: 2, SEQ ID NO: 4 or SEQ ID NO: 6, comprising the steps of :

- (a) contacting a host cell according to Claim 11 or a transgenic invertebrate according to Claim 15 with a chemical or a mixture of chemicals,
- (b) determining the concentration of the polypeptide according to Claim 1, and
- (c) determining the chemical which specifically affects the expression of the polypeptide.

37. A method of finding new active compounds for crop protection or for finding genes which encode polypeptides which participate in the synthesis of functionally similar GABA B receptors in insects comprising selecting for said active compounds with a bio-molecule, cell, or organism selected from the group consisting of:

- (a) a polypeptide according to Claim 1,
- (b) a nucleic acid according to Claim 3,
- (c) a vector according to Claim 26,
- (d) a host cell according to Claim 11,
- (e) an antibody substance according to Claim 14; and
- (f) a transgenic invertebrate according to Claim 15.

38. A method of killing insect pests comprising applying a modulator of a polypeptide according to Claim 1. --